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VOL. 22 No. 28 July 14, 1972

Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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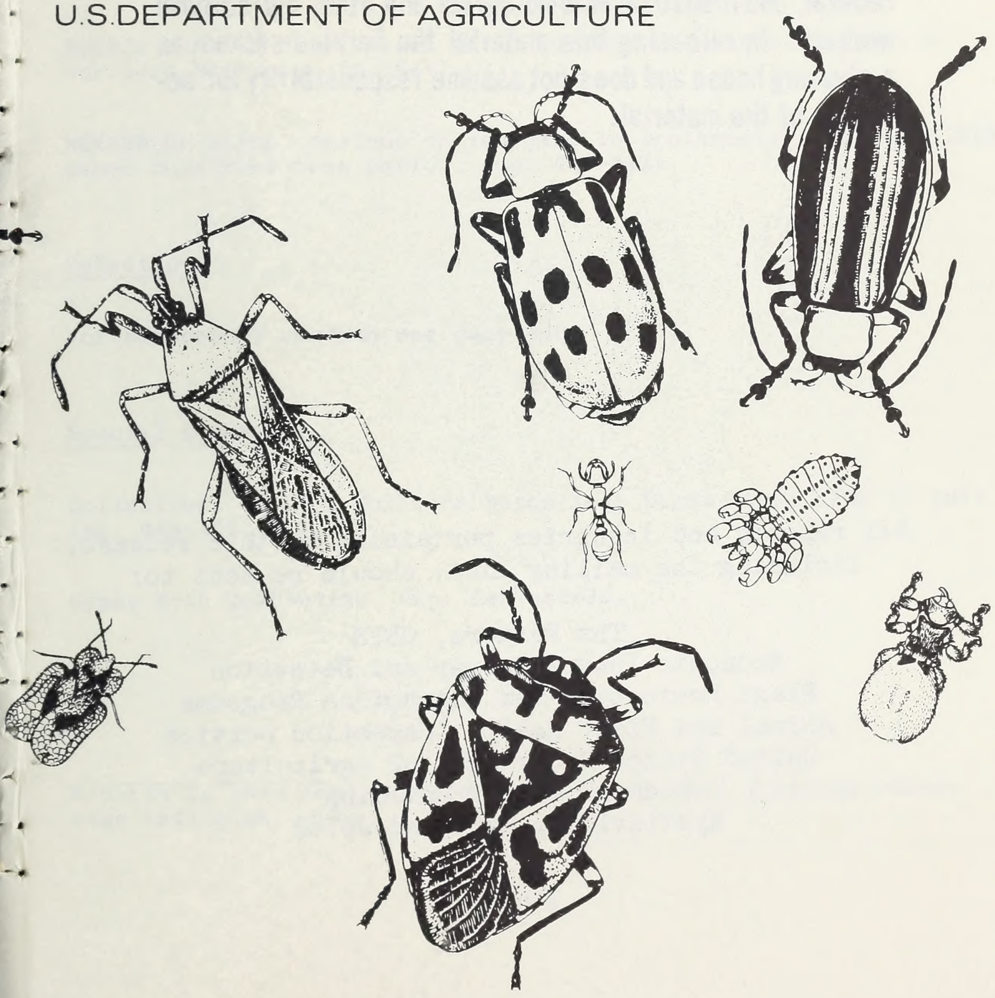

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
ECONOMIC INSECT SURVEY AND DETECTION STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 22 July 14, 1972 Number 28

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Condtions

GREENBUG unchanged on sorghum in Nebraska; heavy in areas of Oklahoma and New Mexico. (p. 437).

POTATO LEAFHOPPER expected to increase on alfalfa in north-central Maryland; continues to threaten alfalfa and beans in Michigan. (p. 437).

SPRUCE BUDWORM defoliation of spruce heavy again this year in northern Michigan. (p. 441).

SCREWWORM cases continue to increase in Southwest; total of 5,013 cases confirmed this period. (pp. 441-442).

Detection

For new county records see page 445.

Special Reports

Collections of Pink Bollworm Moths in a Light Trap, 1953 to 1971. (pp. 448-450).

Gypsy Moth Quarantine. Map. Centerfold.

Reports in this issue are for week ending July 7 unless otherwise indicated.

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Gypsy Moth Quarantine. Map. Centerfold.

WEATHER OF THE WEEK ENDING JULY 3

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

PRECIPITATION: On Monday, July 3, a long front stretched from Maine through the Texas Panhandle to northern Utah. Lows were centered along the front in eastern Ohio and western Oklahoma. Thunderstorms developed along the front where cold air battled with warm air. Thunderstorms also erupted in humid air that lay over the central and southern Great Plains and the middle and southern Mississippi River Valley. Heavy local rains also fell in the northeastern parts of Pennsylvania, New York, New England, West Virginia, and Maryland. A large Arctic high over mid-America at midweek brought blue skies to the Northern States and scattered showers along the leading edge of cool air from Texas to the Ohio River. Showers also occurred over the Deep South. Showers fell from Florida to Pennsylvania late in the week and from the central Great Plains to southern New England over the weekend. Hail from weekend thunderstorms damaged sugar beets in northeastern Colorado. No rain or only widely scattered light sprinkles fell from the Pacific Ocean to the central Rocky Mountains.

TEMPERATURE: Cold air pushed into the northern Great Plains north of a front which early in the week stretched from northern New England through the Texas Panhandle to northern Utah. Early morning temperatures north of the front were in the 30's and 40's. Casper, Wyoming, registered 30 degrees Tuesday morning. Maximums were in the 60's. These temperatures are 15 to 20 degrees cooler than normal for early July. Warm, humid air drifted northward south of the front. Temperatures averaged about 30 degrees warmer than in the cool air. Summer heat continued in the desert Southwest. Furnace Creek in Death Valley, California, warmed to 120 degrees Monday and 121 degrees Wednesday. A large high centered over Nebraska Wednesday helped to hold afternoon temperatures in the 60's and 70's over much of the East while warming the West. Weather of the week continued on page 447.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - NORTH CAROLINA - Caused heavy foliage damage to 25 acres of corn in Tyrrell County. Up to 5 larvae per row foot in spots up to 0.5 acre in size. Mostly fourth and fifth instars. (Van Duyn).

CORN LEAF APHID (Rhopalosiphum maidis) - ILLINOIS - Colonies developed on field corn in southern area. In Jackson and Perry Counties, 50 percent of plants with some aphids in tassels; 1 in 50 plants rated medium. (Ill. Ins. Sur.). WISCONSIN - No buildup noted in tassels of sweet corn since first migrants found. Some colonies forming within whorls of field corn in southern Sauk County, however. (Wis. Ins. Sur.).

GREENBUG (Schizaphis graminum) - NEBRASKA - Populations on sorghum remained stable in most fields. Ranged 30-100 per plant on 100 percent of plants in Seward County field with 1-2 lower leaves discolored; 20-100 per plant on 90-100 percent of plants in 2 York County fields with no economic damage; 50-400 per plant in Saline County field with 20 percent of lower leaves lost; 5-50 per plant in Hamilton County with no economic damage. (Keith, Berogan). ARKANSAS - Taken on sorghum in Craighead County. This is a new county record. (Boyer). OKLAHOMA - Heavy in sorghum in Ottawa County; moderate to heavy in Caddo and Washita Counties. (Okla. Coop. Sur.). NEW MEXICO - This pest and Rhopalosiphum maidis (corn leaf aphid) medium to heavy on grain sorghum in Roosevelt and Curry Counties. Controls applied. (Mathews, Campbell).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Nymphs and adults ranged 10-30 per sweep of alfalfa in Frederick, Carroll, Baltimore and Howard Counties. Expect increase; yellowing seen in some fields. (U. Md., Ent. Dept.). MICHIGAN - Still threatening in alfalfa and beans. (Sauer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Counts in Dixie Valley ranged 2-60 per sweep on seed alfalfa in Churchill County and 6-300+ per sweep in Pershing County. Honeydew heavy, leaf drop occurring in heavier infested fields. (Stitt). WISCONSIN - Increase apparent in much alfalfa. Highest counts, 15 per sweep, noted in western Dane and in Marquette Counties. (Wis. Ins. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Moths decreasing rapidly in blacklight traps over State. Many larvae boring into stalks. Infestations ranged 16-40 percent in fields sampled in Seward, York, and Saline Counties. Little or no damage found in Frontier, Perkins, Keith, and Lincoln Counties. (Campbell). MISSOURI - Dissections in Mississippi County field showed 22 percent of plants infested. Mostly pupae in this field. (Langille). IOWA - Flight complete in central area. Larval survival very low due to cool weather. Tall corn in central area with up to 75 percent of plants showing leaf feeding, but dissection revealed living borers in 10-15 percent of plants. Very few fields will require control. (Iowa Ins. Sur., June 30). WISCONSIN - Populations seem generally low in southwest and northeast areas; highest counts seen in some sandier areas in central part of State and near Wisconsin River. (Wis. Ins. Sur.).

KENTUCKY - O. nubilalis damaged corn statewide; economic in Ballard County, controls applied. Percent infestation in central area by county: Fayette 2.2, Franklin 9.8, Woodford 0.9. (Barnett). VIRGINIA - Moth collections on Eastern Shore increased abruptly nights of July 1 and 2 with 93 moths taken. Only 5 moths taken preceding week; indicates beginning of emergence of second-brood moths. (Hofmaster). MARYLAND - Heavy on corn 18 inches or higher; ranged 7-10 first and second instars per 10 plants in Frederick, Carroll, and Baltimore Counties. Egg laying in these counties expected to remain heavy. Infestations in Talbot, Dorchester, Wicomico, and Somerset Counties ranged 40-80 percent. Pupation 80 percent. Increased egg laying on corn expected to be heavy within 14 days. (U. Md., Ent. Dept.). DELAWARE - First pupae of first summer generation taken in corn. Adults in blacklight traps averaged less than one per night in Sussex County. (Burbutis, Kelsey). NEW YORK - Light to moderate in most early corn in Hudson Valley. Larvae in tassels in most early varieties. Moth catches light; egg masses difficult to find; first-brood activity declining. (N.Y. Wkly. Rpt., July 3).

CORN EARWORM (Heliothis zea) - NEW JERSEY - Moth catches in selected southern and central area fields continue abnormally heavy for this time of year. Recommend 4 to 5-day control interval in sweet corn plantings beginning to silk. (Ins.-Dis. Newsltr.).

SORGHUM MIDGE (Contarinia sorghicola) - MISSISSIPPI - Averaged 8 per head on blooming grain sorghum in Noxubee County. (Robinson).

TURF, PASTURES, RANGELAND

FALL ARMYWORM (Spodoptera frugiperda) - GEORGIA - Larvae infested Bermuda grass pasture in Camden County. First infestation of season. (Thomas, Nolan).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - WASHINGTON - This species and S. cicatristriatus caused damage affecting 20-50 percent of several bluegrass lawns in Prosser, Benton County. (Klostermeyer).

A WHITEFLY (Aleurocybotus occiduus) - ARIZONA - Necessitated treatments in few over-irrigated fields of Bermuda grass at Yuma Valley, Yuma County. Honeydew main problem. (McHenry).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW YORK - Larval counts decreased greatly at Ithaca and in other areas of State. New adults should increase next 14 days. Bathyplectes stenostigma (an ichneumon wasp), a larval parasite released in Ithaca area in 1971, recovered in area this period. (N.Y. Wkly. Rpt., July 3). MASSACHUSETTS - Larvae averaged 27 per 100 sweeps in Berkshire County. (Miller, June 30). KENTUCKY - Eggs averaged 10.4 and larvae 10 per square foot in Fayette County field. (Barnett, Parr).

OHIO - Hypera postica adults in northern Wayne County suppressed new-growth alfalfa in late cut fields. Larvae ranged 75-88 per 50 sweeps in Champaign County, averaged 66 per 50 sweeps in Logan County. (Fox). WISCONSIN - Threat ended for season. Larval and adult counts seldom exceed 4 per 10 sweeps in Fox River Valley area, southwest area, or central sands region. (Wis. Ins. Sur.).

NEW MEXICO - *Hypera postica* medium to heavy on alfalfa in Santa Fe and Rio Arriba Counties. Larvae ranged 23-53 per 25 sweeps in most fields. Most leaves damaged. (Patterson, Heninger). UTAH - Still damaging alfalfa in Box Elder County. (Lindsay).

PEA APHID (*Acyrthosiphon pisum*) - NEVADA - Ranged from 40-50 per sweep to 100-200+ per sweep on 4,000 acres of alfalfa hay in Hualapai Valley, Washoe County. Populations lower in fields where aphids heavily parasitized. Infestations generally much reduced over past 2 weeks. (Adams). Ranged 75-100 per sweep in most alfalfa hay fields in Diamond Valley, Eureka County. (Martinelli). WISCONSIN - Increased in regrowth alfalfa. Small nymphs predominate in many fields. Counts variable; 50-70 per sweep not unusual in many fields in southwest, central, and northeast areas. Predator incidence low in these fields; aphid counts could increase next few weeks. (Wis. Ins. Sur.). MARYLAND - Light, ranged 5-10 per sweep, in Frederick, Baltimore, Carroll, and Montgomery Counties. Slightly above 1971 level. (U. Md., Ent. Dept.). MASSACHUSETTS - Averaged 736 per 100 sweeps in Berkshire County. (Miller, June 30).

ALFALFA LEAF BLOTCH-MINER (*Agromyza frontella*) - VERMONT - Damage on first-cutting alfalfa variable statewide; in some areas leaf destruction about 20-25 percent. Little evidence of miner activity on regrowth. (Nielsen et al.). MASSACHUSETTS - Adults averaged 22 per 100 sweeps in Berkshire County; 17 percent of alfalfa leaflets showed larval mines. (Miller, June 30).

GRASSHOPPERS - WISCONSIN - *Melanoplus femurrubrum* increased on forage crops in many scattered areas over State. First instars ranged 50-200 per sweep in field in central Iowa County with damage apparent; averaged 15 per sweep in adjacent fields. Heavy in fields in southern Dane and eastern Marathon Counties. Most fields in central sands area with lower counts. Higher populations not necessarily on sandy ground as in previous years. Due to sporadic nature of infestations and magnitude of some populations, growers should check alfalfa regrowth. *Dissosteira carolina* and *M. confusus* adults also appearing; *Arphia conspersa* adults most noticeable along roadsides. (Wis. Ins. Sur.).

SOYBEANS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - NORTH CAROLINA - Up to 4 larvae per row foot in some northeastern area fields. About 150 acres observed in Camden County will need treatment if present trend continues; 15 percent defoliation observed in area. (Van Duyn).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - OKLAHOMA - Punctured squares averaged 23 percent in 4 fields in Bryan County. Ranged 1-5 percent in about 10 percent of fields checked in Jackson, Harmon, and Greer Counties. Very light in Caddo, Washita, Wagoner, and Muskogee Counties. (Okla. Coop. Sur.). MISSISSIPPI - Percent punctured squares in some fields by county: Leake, 12 on 200 acres; Neshoba, 10 on 225 acres; Noxubee, 8 on 3,000 acres; Tippah, 18 on 200 acres; Yalobusha, 9 on 100 acres. (Robinson). ALABAMA - First-generation weevils caused increase in square infestations in most fields. Damaged squares ranged 10-60 percent. Controls applied. Field infestations vary due to numbers of overwintered adults near fields and age of cotton. Percent punctured squares ranged 1-25. First weevil "hatchout" will occur July 8-25. (McQueen). GEORGIA - Percent punctured squares by county: Wilcox 0-4, Crisp 0-10, Terrell 0-8, Tift 18 in one field; ranged 0-25 over southern area. First-generation adults emerged and damaged squares over southern area. (Womack et al.). TENNESSEE - Counts ranged 0-55 percent punctured squares. First-generation "hatchout" expected July 12 on early cotton in southern tier of counties. (Locke, Gordon).

BOLLWORMS (Heliothis spp.) - TENNESSEE - H. zea counts below control level in most fields; however, few fields in Tipton County at, or above, control levels. (Gordon, Locke). GEORGIA - Egg laying generally lower than past 2 weeks as of June 30. Larval feeding very heavy in many southern area fields. (Womack). Current counts per 100 terminals by county: Wilcox, 0-2 eggs, 0-7 larvae; Crisp, 0-4 eggs, 1-11 larvae. (Hudson, Nix). Egg laying light over southern area; most larvae large, predominately H. virescens. (Womack). ALABAMA - Small larvae and eggs of H. zea ranged 1-10 per 100 terminals in all fields throughout State. Most serious problems in Dallas, Butler, and some southwest counties. (McQueen). MISSISSIPPI - Percent damaged squares by county: Noxubee 2, Tippah 5, Leake 10 on 200 acres. (Robinson). OKLAHOMA - H. zea damaged squares ranged 0-4 percent and eggs 1-2 per 100 terminals in Jackson, Harmon, and Greer Counties. Eggs averaged 1 per 100 terminals in Tillman County. (Okla. Coop. Sur.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - OKLAHOMA - Ranged light to heavy (up to 53 per 100 terminals) in Jackson, Harmon, and Greer Counties, and 24-60 per 100 terminals in Tillman County. Still heavy in many fields in Caddo, Washita, and Beckham Counties. Ranged moderate to heavy in Okmulgee County; heavy in scattered fields in Bryan County; moderate in Muskogee County. Averaged 20 per 100 sweeps in Wagoner County. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - UTAH - Continued to damage potatoes and tomatoes throughout infested area of northern part of State. Control general on commercial plantings. (Knowlton). Outbreak unusually severe in Box Elder County. (Lindsay).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Moved into potato fields in Greeley area, Weld County. This is early migration into late potatoes. (Marquardt).

VARIEGATED CUTWORM (Peridroma saucia) - VIRGINIA - Total of 149 moths collected nights of July 1 and 2, compared to 16 preceding week. Emergence much heavier than 37 moths collected for same period in 1971. (Hofmaster).

DECIDUOUS FRUITS AND NUTS

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - First-generation damage averaged 26 percent in untreated pecan orchard in Tulsa County, 31 percent in 2 orchards in Rogers County. (Okla. Coop. Sur.).

AN ERIOPHYID MITE (Aculus comatus) - OREGON - Heavy on Daviana and Royal variety filberts at Corvallis, Benton County. (Krantz, July 1).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Counts per leaf increased statewide. Leaf bronzing seen in some orchards. Cool weather temporarily slowing development. Expect summer generation overlap soon. (Thompson).

CITRUS

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Resistance to previous insecticides increased. Difficult to protect new tender growth at Yuma County citrus nurseries. (Ariz. Coop. Sur.).

ORNAMENTALS

SPRUCE SPIDER MITE (Oligonychus ununguis) - PENNSYLVANIA - All stages taken on Katsura tree (Cercidiphyllum japonicum) in Camp Hill, Cumberland County, October 21, 1971, by D. Stehr and R. Lehman. Determined by E.W. Baker. Adults and nymphs collected on Cryptomeria japonica at 2 locations in Allentown, Lehigh County, October 8 and November 4, 1971, by T. Wolf. Determined by E.W. Baker. These are new host records. (Kim).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MICHIGAN - Adults emerged; numerous in Marquette County. Larval defoliation severe again this year. Some tree mortality expected in infested area. (Johnson).

PINE SPITTLEBUG (Aphrophora parallela) - FLORIDA - Adult taken in blacklight trap July 5 near pine trees at Gainesville, Alachua County. This is unusual collection; only few records of this species in State, none farther south than Marion County. (Mead).

PINE CHAFER (Anomala oblivia) - TENNESSEE - Taken in Hardin County for a new county record. Determined by R.D. Gordon. (Bruer).

ELM LEAF BEETLE (Pyrrhalta luteola) - OKLAHOMA - Still heavy on Siberian elms in most areas. Second-generation egg deposition very heavy in Payne County. (Okla. Coop. Sur.). NEW MEXICO - Medium to heavy on Siberian elms at Espanola, Rio Arriba County, and Santa Cruz, Santa Fe County. Some heavy infestations, up to 20 larvae per leaf. (Heninger).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 5,013 confirmed cases reported in continental U.S. during period June 25 to July 1. This is largest number of laboratory confirmed cases to occur during any single week since start of program in 1962.

Screwworm cases by State as follows: Texas 4,901; New Mexico 32; Arizona 74; Oklahoma 6. Total of 1,067 cases confirmed in Mexico. Number of sterile flies released this period in U.S. totaled 204,016,000 as follows: Texas 177,648,000; New Mexico 2,910,000; Arizona 16,538,000; California 600,000; Oklahoma 1,920,000; Louisiana 2,550,000; Arkansas 1,850,000. Total of 3,062,000 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 300 per head on cows and 1,000 per head on bulls in Payne County. Heavy in Pittsburg County, moderate in Garfield, Washington, and Pontotoc Counties. (Okla. Coop. Sur.). MISSISSIPPI - Averaged 500+ on untreated cattle in Monroe, Clay, Noxubee, and Oktibbeha Counties. (Robinson). ILLINOIS - Average number per untreated beef animal by county: Jo Daviess 30.5, Ogle 27.8, Grundy 63.3, Kendall 1.6, Champaign 48.6, Ford 72.8. (Ill. Ins. Sur.). MARYLAND - Light in unsprayed herds, ranged 10-20 per head. Counts on sprayed livestock ranged 0-15 per head. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 3 per head on untreated dairy cattle in Payne County. (Okla. Coop. Sur.). KENTUCKY - Adults averaged 40 per animal on cattle of various ages in Woodford County. (Barnett). MARYLAND - Increased after heavy rains in June and early July. Ranged 10-40 per head on most unsprayed beef cattle. Statewide increase of annoyance level expected, especially along Chesapeake Bay shores. (U. Md., Ent. Dept.).

FACE FLY (Musca autumnalis) - MARYLAND - Increased after heavy rains in June. Counts on unsprayed beef ranged 20-40 per head. Counts on sprayed dairy stock ranged 5-15 per head. Population at annoyance level in Frederick, Baltimore, Harford, and Montgomery Counties. (U. Md., Ent. Dept.). ILLINOIS - Average number per untreated beef animal by county: Jo Daviess 7.9, Ogle 4.5, Grundy 0.5, Kendall 0.8, Champaign 0.3, Ford 3.7. (Ill. Ins. Sur.). KENTUCKY - Adults averaged 20 per animal on cattle of various ages in Woodford County. (Barnett). MISSISSIPPI - Ranged up to 75 per face on mixed cattle in Monroe County; averaged 30 per face on 400 head. (Robinson). GEORGIA - Populations heaviest ever seen in northern area of State. (Nolan).

MOSQUITOES - GEORGIA - Heavy throughout southern part of State. (Nolan). UTAH - Very annoying in Cache County. Severe in most cultivated areas in Allen Canyon area of Rich County; very troublesome in Corinne, Locomotive Springs, and Cedar Mountain areas of Box Elder County. Abundant and annoying in farm areas around Abraham, Millard County. (Parish, Knowlton). NEVADA - Aedes nigromaculis adults and larvae heavy at Sparks, Washoe County. (Ferreto).

BROWN RECLUSE SPIDER (Loxosceles reclusa) - MISSOURI - Specimens collected in Andrew and Montgomery Counties. These are new county records. (Munson).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Moderate on cattle in Pittsburg County and in scattered areas of Washington County. (Okla. Coop. Sur.).

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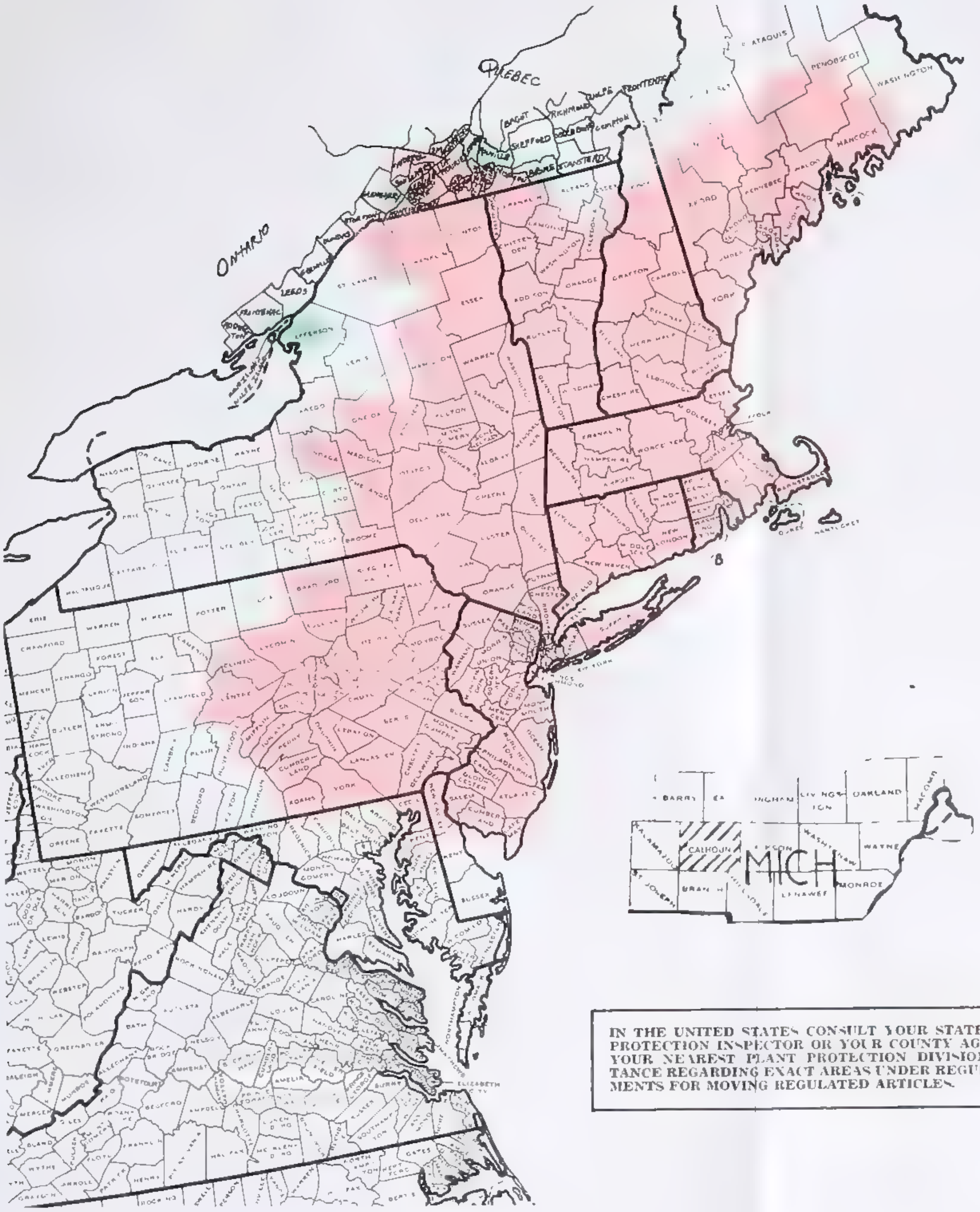
GYPSY MOTH QUARANTINES

U. S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
AND CANADA DEPARTMENT OF AGRICULTURE
COOPERATING WITH AFFECTED STATES



IN THE UNITED STATES CONSULT YOUR STATE OR FEDERAL PLANT PROTECTION INSPECTOR OR YOUR COUNTY AGENT AND, IN CANADA, YOUR NEAREST PLANT PROTECTION DIVISION OFFICE FOR ASSISTANCE REGARDING EXACT AREAS UNDER REGULATION AND REQUIREMENTS FOR MOVING REGULATED ARTICLES.

COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED
COUNTIES PARTIALLY COLORED ARE PARTIALLY REGULATED

🟥 GENERALLY INFESTED AREA-STATE, FEDERAL, AND CANADIAN REGULATIONS
(ERADICATION TREATMENTS NOT IN PROGRESS OR PLANNED)

🟩 SUPPRESSIVE AREA-STATE, FEDERAL, AND CANADIAN REGULATIONS
(SUPPRESSIVE TREATMENTS IN PROGRESS OR PLANNED)

▨ ERADICATED—REGULATION REMOVED

SEE REVERSE SIDE FOR LIST OF REGULATED ARTICLES

RESTRICTIONS ARE IMPOSED ON MOVEMENT OF REGULATED ARTICLES FROM A REGULATED AREA AS FOLLOWS

1. FROM RED INTO OR THROUGH GREEN OR WHITE
2. FROM GREEN INTO OR THROUGH WHITE
3 GREEN INTO GREEN
4. WITHIN GREEN.*

*IF REQUIRED BY AN AUTHORIZED INSPECTOR

REVISED

THE FOLLOWING REGULATED ARTICLES MUST BE MOVED UNDER CERTIFICATE OR PERMIT YEAR-ROUND EXCEPT AS INDICATED

1. Trees, shrubs with persistent woody stems, and parts thereof, **except** seeds, fruits, and cones.

   Trees and shrubs, and parts thereof, are exempt if grown in a greenhouse throughout the year and so labeled on the outside of each container.*

   Boughs, cuttings, and scions with stems no greater than one-half inch in diameter are exempt.*

   Parts of trees and shrubs that have been dried, pressed, waxed, lacquered, varnished, or similarly surface-treated, are exempt.*

2. Timber and timber products, including but not limited to lumber, planks, poles, logs, cordwood, and pulpwood.

   Lumber is exempt if dressed or sawed four sides with ends clipped and free of surface bark, or if kiln dried, provided such lumber is shipped direct after processing and the waybill or other shipping document is marked to show that the lumber was shipped immediately after processing.*

   Manufactured wood products, such as shingles, flooring, furniture, handles, etc., are exempt.*

   Shavings, sawdust, wood flour, excelsior, and cedar bedding are exempt.*

3. Stone and quarry products.

   Stone and quarry products are exempt if processed by grinding or pulverizing.*

4. Mobile homes, recreational vehicles, and associated equipment moving from hazardous parks or recreational sites.

*Exempt if not exposed to infestation after the prescribed handling.

4,001; New Mexico 32;

cattle in Pittsburg County and in scattered areas of Washington County. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - OHIO - All stages of *Coleomegilla maculata*, *Hippodamia convergens*, *Coccinella novemnotata*, and *C. transversoguttata* noted throughout southeastern and central areas. One beetle per 3-5 pepper plants 4-6 inches tall seen in Washington County. (Fox). ARKANSAS - Thousands of aestivating *Coleomegilla maculata* adults seen on top of Rich Mountain, Polk County. (Allen). OKLAHOMA - Several species, mainly *Hippodamia convergens*, ranged 0-28 per 100 sweeps in cotton in Jackson, Harmon, and Greer Counties; averaged 1 per 20 plants in Tillman County. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CITRUS WHITEFLY (*Dialeurodes citri*) - CALIFORNIA - Citrus and gardenia in Sacramento, Sacramento County, heavily infested. Ranged from 10 per leaf to hundreds per leaf. (Cal. Coop. Rpt.).

GRASS BUGS - UTAH - *Labops* spp., including few *L. utahensis*, caused discoloration of giant ryegrass, crested wheatgrass, and several other grasses in all higher areas of Mount Nebo Loop area in Utah and Juab Counties. Black species damaged Russian wild ryegrass in Yost area of Box Elder County. Most found in this area *Irbisia* spp., with *I. pacifica* most common. (Knowlton et al.).

GRASSHOPPERS - OREGON - Spraying for control of *Melanoplus sanguinipes*, *Camnula pellucida*, *Oedaleonotus enigma*, *M. bivittatus*, and *M. packardii* on 145,000 acres in Pilot Rock area of Umatilla County completed July 6. Results good. Additional projects scheduled to begin July 10 on 125,000 acres in John Day Valley, Grant County, and 300,000 acres in Baker and Union Counties; July 12 on 123,000 acres in Morrow County, and July 15 on 140,000 acres in Wallowa County. (Penrose). NEVADA - Total of 10,368 acres comprised of 4,000 acres of crested wheatgrass and 6,368 acres of adjacent rangeland treated for *M. sanguinipes* and *O. enigma* in Doby Summit area, Elko County. (Wilson). Nymphs of *M. sanguinipes* ranged 20-25 per square yard on 300 acres of alfalfa hay in Hualapai Valley, Washoe County. (Adams). In Diamond Valley, Eureka County, *M. sanguinipes* nymphs and adults ranged 10-12 per square yard on 100 acres of alfalfa hay. Adult *M. sanguinipes* (95 percent) and *M. bivittatus* (5 percent) ranged 15-20 per square yard on another 260 acres of alfalfa hay in same area. (Martinelli). *M. bivittatus*, *M. sanguinipes*, and *C. pellucida* ranged 25-35 per square yard on 50 acres of abandoned clover below Grass Valley, Pershing County. (Rowe).

NORTH DAKOTA - Mainly *M. sanguinipes*, *M. keeleri*, and *M. confusus* ranged 1-30 (averaged 13) per square yard on 13,000 acres in northern part of Sheyenne National Grasslands in Ransom and Richland Counties. Southern parts of grasslands had less than 1 grasshopper per square yard. Development ranged from first instar to adults. (Grasser). OKLAHOMA - *M. differentialis* and *M. bivittatus* ranged 20-40 per square yard in pecan orchard planting of fescue in Tulsa County; becoming serious on pecan foliage in orchard. (Okla. Coop. Sur.).

GYPSY MOTH (Porthetria dispar) - RHODE ISLAND - Defoliation of white oaks near 100 percent in many areas. Larvae feeding on red oak, white pine, beech, American chestnut, and shack huckleberry. (Field, June 30). PENNSYLVANIA - Defoliation 15-70 percent in area of Berks and Schuykill Counties bounded by Interstate Highway 78 and State Highways 501, 895, and 183. Pupation begun in more heavily infested areas; no pupae found in areas of light defoliation, many larvae in last instar. (Cameron, June 22). Heavy feeding along Berks and Schuylkill County line and Schuylkill and Lehigh County line. Forced pupation noted at Hawk Mountain and at Shartlesville; many very small, apparently starving larvae in heavily defoliated areas. (Kadow, June 27).

JAPANESE BEETLE (Popillia japonica) - MICHIGAN - First adults of season taken July 6 on wild grape within quarantine zone in Calhoun County. Emergence about 7 days later than in 1971. (Hanna). OHIO - Several hundred specimens dug out of turf in Wayne County; more than half were adults; other stages also present. Spot emergence occurred, peak emergence not yet started. (Fox). TENNESSEE - Adults emerged in several eastern counties. (Hammett). ALABAMA - Single adult taken in trap June 27 in old infested area in Russell County in area along U.S. I-85 between State Highways 37 and 169. (Barwood). NORTH CAROLINA - Adults feeding heavily on weeds throughout State. One soybean field of 5 surveyed in southern Coastal Plain with 1 beetle per row foot. On corn seeds in this area and in Piedmont, little damage noted. (Johnson).

VIRGINIA - (P. japonica) infested strawberries in Montgomery, Appomattox, Pulaski, Prince Edward, and Fairfax Counties during late June. Infestation and damage low, but may increase rapidly. (Allen). WEST VIRGINIA - First adults emerged in Kanawha County June 16 (Cole); in Summers County June 20 (Moore). Adults caused moderate damage to shade trees, roses, grapes, and vegetables in Kanawha, Putnam, and Mason Counties by June 29. (Hacker). MARYLAND - Adults emerged statewide; populations heaviest in Prince Georges and Montgomery Counties. Adult emergence expected to continue over next 7-10 days. Populations light but noticeable by homeowners. Controls applied to ornamental plantings in central county areas. (U. Md., Ent. Dept.). PENNSYLVANIA - First adults of season in Franklin County seen on roses near Carlisle June 27. Adults collected on black locust in Harrisburg, Dauphin County, June 29, and on goldenrod in Montgomery County June 27. (Maxwell et al.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Larvae in many fields with blooms southeast of Safford, Graham County. One field with 60 percent of blooms rosetted. Boll infestations ranged 10-20 percent in some Yuma Valley fields, Yuma County. Few growers anxious to start spray program although only 2-4 percent infestations found in most of their fields. (Ariz. Coop. Sur., June 30).

WHITEFRINGED BEETLES (Graphognathus spp.) - NORTH CAROLINA - First adults of season found feeding on astor June 26 at airport in Rowan County. (Bowers).

WOOLLY WHITEFLY (Aleurothrixus floccosus) - CALIFORNIA - Survey continued in San Diego, San Diego County. Some previously infested properties negative. Parasite activity increased; 2,321 parasites collected for release on 35 new properties: 2,245 Cales sp., 26 Amitus sp., and 50 Eretmocerus sp. (Cal. Coop. Rpt.).

Corn - CORN EARWORM (*Heliothis zea*) heavy in 1.5 acres of sweet corn at Pupukea, Oahu; 62 percent of mature ears with one or more larvae; confined to silks and tips. Negligible in 2 acres at Waialua; less than one percent infested ears. (Kawamura).

Turf and Pasture - GRASS WEBWORM (*Herpetogramma licarsisalis*) larvae heavy, up to 15 per square foot, in 15-acre Kikuyu grass pasture at Hana, Maui; damage heavy. Larvae less than 2 per square foot in other pastures in same area, with light spotty damage. Adults heavy in pastures at Kipahulu; larvae nil. (Ah Sam).

General Vegetables - BEET ARMYWORM (*Spodoptera exigua*) light in 1.5 acres of broccoli at Waialua, Oahu; 10-15 percent of leaves affected on 30 percent of plants. Up to 9 (average 3) larvae per infested leaf. All stages of GREENHOUSE WHITEFLY (*Trialeurodes vaporariorum*) moderate to heavy in 1.5 acres of bittermelon at Pupukea, Oahu. Eggs and nymphs light on young terminal leaves in adjacent 0.5 acre of seequa (*Luffa acutangula*). Larval mines of LEAFMINER FLIES (*Liriomyza* spp.) moderate on older leaves; adults trace. All stages of *T. vaporariorum* trace in one acre of bush beans at Waialua. Leafminers generally light; moderate on older leaves. (Kawamura).

Fruits and Nuts - BLACK CITRUS APHID (*Toxoptera aurantii*) nymphs and adults moderate on young terminals of 4 *Citrus* plants at Waipahu, Oahu; *Coelophora inaequalis* (a lady beetle) moderate, preying on aphids. *T. aurantii* population normally fluctuates with vegetative flushes of *Citrus* throughout year; however, several lady beetles and a parasite appear to keep pest under control. (Otsuka).

General Pests - CHINESE ROSE BEETLE (*Adoretus sinicus*) damage heavy to foliage of 30 roadside *Erythrina* trees at Hana, Maui; up to 50 percent of leaf area on many trees affected. Damage light in 0.5 acre of peanuts at Keeau, Hawaii; 5-10 percent of leaves with light damage. (Ah Sam, Matayoshi).

Forest and Shade Trees - KOA BUG (*Coleotichus blackburniae*) nymphs and adults light on 12 *Acacia confusa* trees at Mililani Memorial Park, Oahu. Sightings of this elusive endemic pest on this host quite common during past few months. (Kawamura).

DETECTION

New County Records - BROWN RECLUSE SPIDER (*Loxosceles reclusa*) MISSOURI - Andrew, Montgomery (p. 442). GREENBUG (*Schizaphis graminum*) ARKANSAS - Craighead (p. 437). PINE CHAFER (*Anomala oblivia*) TENNESSEE - Hardin (p. 441).

LIGHT TRAP COLLECTIONS

	Tempera-ture °F.	Precip-itation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 6/30-7/6			BL		2			1	1	7								2	2		2			
IOWA																								
Dubuque 6/17, 21			BL	2													43		99					
Sutherland 6/16-22			BL	29													141	12	178					
Wapello 6/16-22			BL	9													41		193					
KENTUCKY																								
Bowling Green 7/4			BL																20					
Leitchfield 7/3			BL													2								
MICHIGAN (County)																								
Lenawee 6/28-7/4			BL	28													17	16	200					
Monroe 6/26-30			BL														72	15	111					
Oceana 6/22-30			BL	12													23	27	168					
MISSISSIPPI (County)																								
Oktibbeha 6/30-7/13			BL	1				3		5					3	1		8	1423			10		
Washington 6/30-7/6			2BL	7	5			16		85						3		5	543		1	13	2	
NEBRASKA																								
Aurora 6/29			BL	35		36				1							25	47	80		16	2		
Lincoln 7/6			BL	93														114	125		1	1		
Scottsbluff 7/5			BL			43	2								1				80					
NEW HAMPSHIRE (County)																								
Lee 7/3			BL	1	1														8					
Ossipee 6/22-24, 26			BL																7					
NEW JERSEY																								
Mullica Hill 6/29-7/5			BL	15						2						2	10	16	85			14		
Seabrook 6/29-7/5			BL	34						3						2	6	41	308			38		
Vineland 6/29-7/5			BL	17						6						2	3	30	222			18		
NORTH DAKOTA																								
Bismarck 6/29, 7/5			BL			1								16					12					
Bottineau 7/5			BL			7								1					5					
Fargo 7/2, 4-6			BL			14								1					17					
OHIO																								
Wooster 7/1-5			BL	36													6	35	516					

LIGHT TRAP COLLECTIONS

	Tempera-ture °F.	Precip-itation (inches)	Type of trap BL = blacklight I = incandescent MV = mercury vapor O = other	*Agrotis ipsilon* (black cutworm)	*Estigmene acrea* (saltmarsh caterpillar)	*Euxoa auxiliaris* (army cutworm)	*Faronta diffusa* (wheat head armyworm)	*Feltia subterranea* (granulate cutworm)	*Heliothis virescens* (tobacco budworm)	*H. zea* (bollworm, corn earworm, tomato fruitworm)	*Laspeyresia pomonella* (codling moth)	*Loxostege commixtalis* (alfalfa webworm)	*Loxostege rantalis* (garden webworm)	*Loxostege sticticalis* (beet webworm)	*Manduca quinquemaculata* (tomato hornworm)	*Manduca sexta* (tobacco hornworm)	*Ostrinia nubilalis* (European corn borer)	*Peridroma saucia* (variegated cutworm)	*Pseudaletia unipuncta* (armyworm)	*Spodoptera exigua* (beet armyworm)	*Spodoptera frugiperda* (fall armyworm)	*Spodoptera ornithogalli* (yellowstriped armyworm)	*Trichoplusia ni* (cabbage looper)	Crops
OREGON (County)																								
Lane 6/29-7/5			BL															5						
Marion 6/29-7/5			BL	4														16						
Multnomah 6/29-7/5			BL															7						
PENNSYLVANIA (Districts)																								
Central 6/25-7/5			BL	1														2	26					
Southeast 6/25-7/5			BL	9													3	6	55					
Southwest 6/25-7/5			BL	4	4												10	7	30					
TENNESSEE (County)																								
Dyer 7/3-7			BL	9	1			6										22	66					
Franklin 7/3-7			BL	4											1				118					
Madison 7/3-7			BL	2				2		1							3	14	134					
VIRGINIA																								
Holland 6/27-30			BL							1					2				25					
Montgomery 6/29-7/5			BL																377					
Warsaw 6/28-7/3			BL												2				921					
WISCONSIN																								
Hancock 6/28-7/4			BL	2													11	11	12					
Lancaster 6/27-7/2			BL	7													2	15	95					
Mazomanie 6/29-7/2			BL	1													11	15	25					

Weather of the week continued from page 435.

Havre, Montana, warmed to 86 degrees Wednesday afternoon. This was 10 degrees warmer than Birmingham, Alabama. A number of cities had never been so cool in July as on Thursday morning. The 40's were common as far south as the Ohio River. Parkersburg, West Virginia, on the Ohio River, recorded 45 degrees. Sunday brought warmer temperatures to most of the Nation. Worland, Wyoming, warmed to 100 degrees Sunday afternoon. The northeast warmed to the low 80's--85 degrees at Houlton, Maine. Much of the East averaged 6 to 12 degrees below normal.

Collections of Pink Bollworm Moths in a Light Trap, 1953 to 1971, Waco, Texas

C.B. Cowan, Jr. 1/, C.R. Parencia, Jr. 2/, and R. N. McBride 1/

A light trap has been operated by personnel of the Blackland Cotton Insects Investigations Laboratory, Waco, Texas, at the same location from 1953 to 1971. The trap was equipped with a mercury vapor lamp from 1953 through 1957 and with a blacklight lamp, thereafter.

Moth collections of five species of Lepidoptera, during the years noted have provided much useful information. However, this brief report is concerned only with the pink bollworm.

Figure 1 shows that more pink bollworm moths were collected in 1971 than in any previous year. The total, 61,897, was almost as many as were collected (65,572) in the previous 18 years. The large number of moths collected in 1971 reflected the heavy infestation in the cotton crop resulting from late harvest and stalk destruction in 1970 due to adverse weather conditions followed by an extremely dry, mild winter.

Figure 2 shows that the largest numbers of moths in 17 of the 19 years were collected in September, indicating that moth movement increases greatly as the cotton crop matures and immature fruit becomes scarce. Peak collections occurred during August in 1954 and in 1963, both drouth years when the crop matured early. Collections of moths were low each year from April through mid-July indicating little movement of moths from overwintering larvae and of moths during the main fruiting period.

Parencia et al. (J. Econ. Ent. 55(5):692-695, 1962) stated: "Light trap data gave some indication of pink bollworm survival in early spring when moths migrated in search of fruiting fields. Lack of much moth movement between fields during the main fruiting period would make moth collection data valueless in predicting the degree of infestation buildup during that important period when control measures may be needed. Collections late in the season served in part to index the abundance of the pest." The observations continue to be pertinent for the data accumulated in subsequent years.

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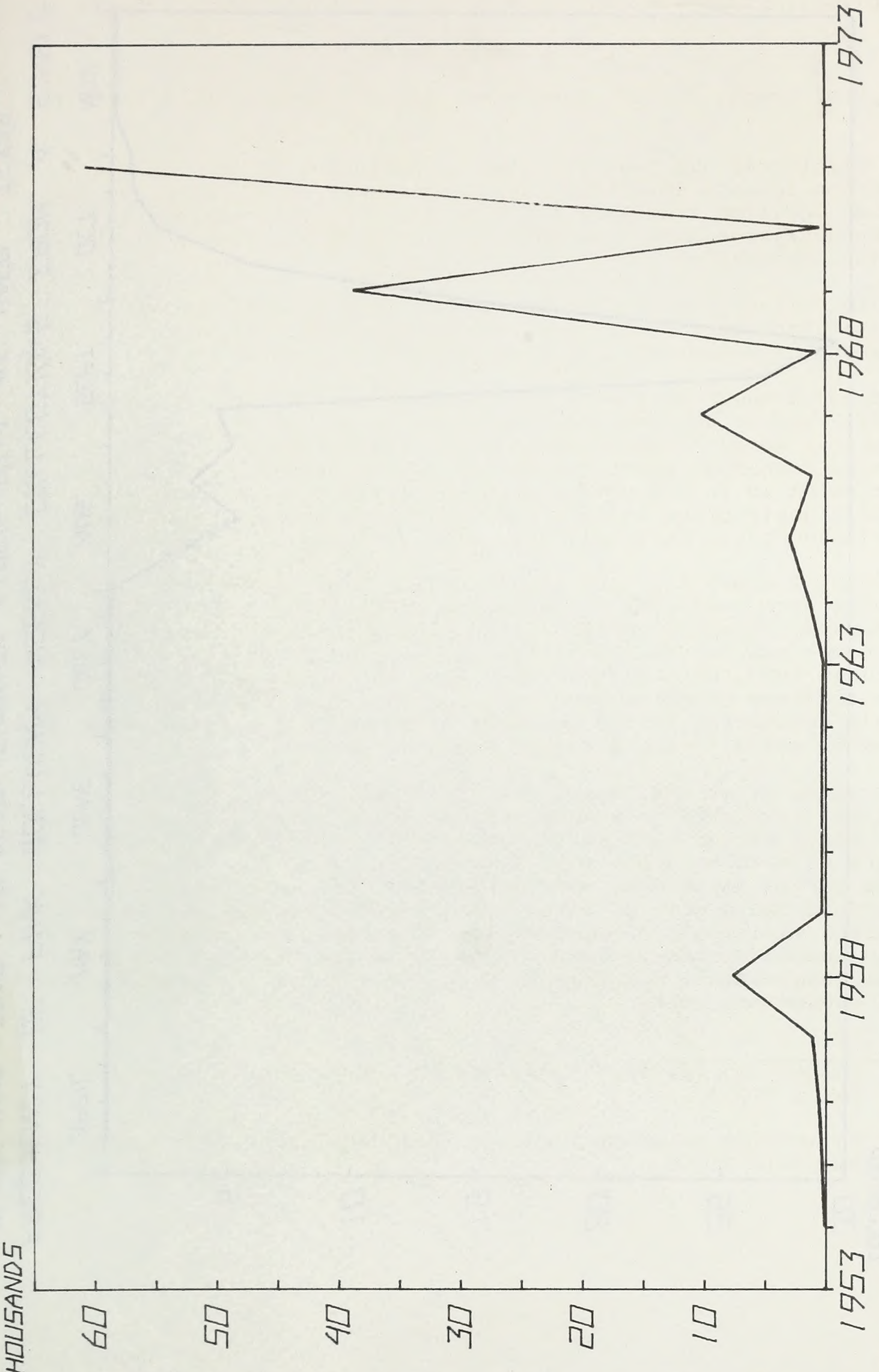
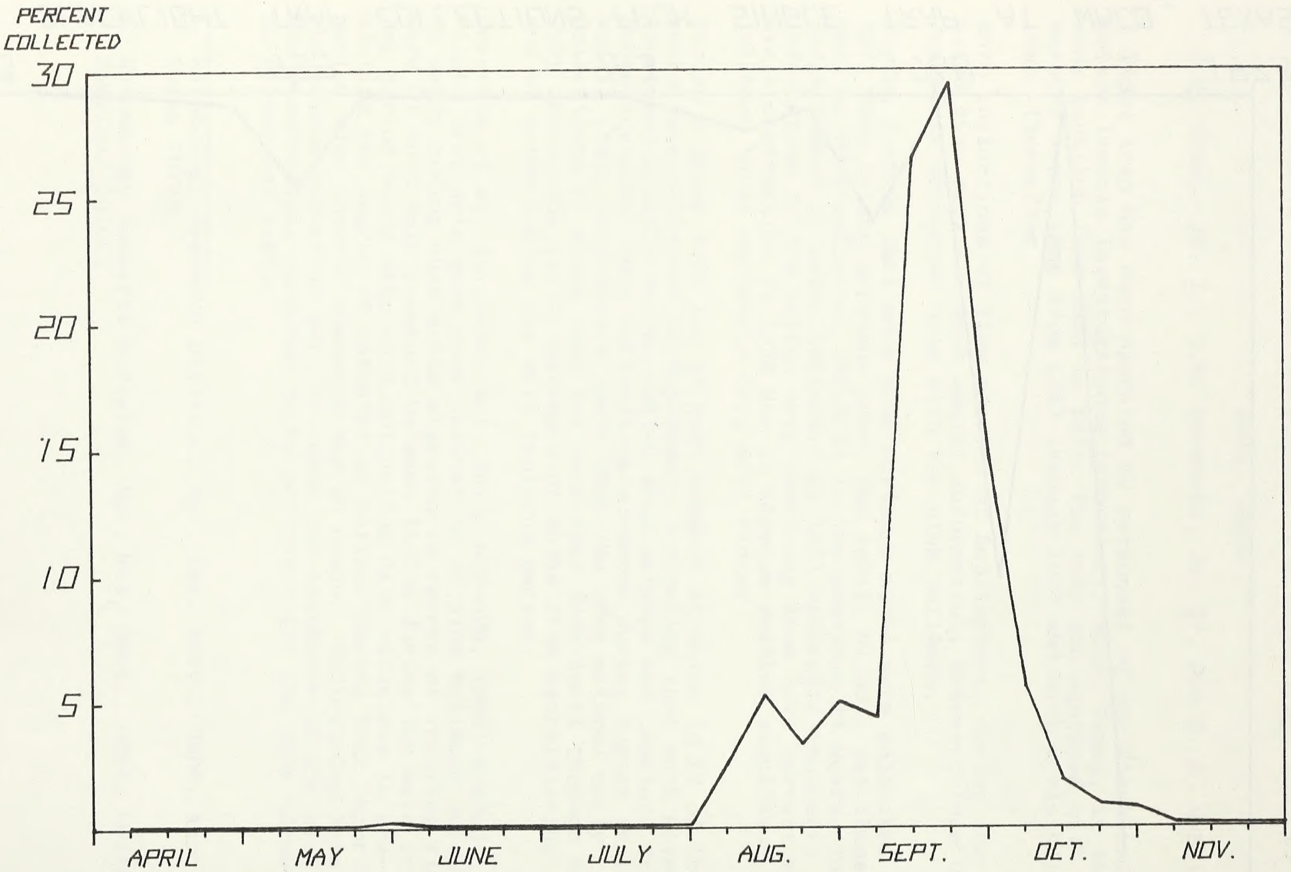
U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
22(28):448-450, 1972



ANNUAL BLACKLIGHT TRAP COLLECTIONS FROM SINGLE TRAP AT WACO, TEXAS



FREQUENCY OF PINK BOLLWORM WEEKLY COLLECTIONS FROM A SINGLE BLACKLIGHT TRAP, 19-YEAR SUMMARY (1954-1971) AT WACO, TEXAS

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